

rufoavillaris, and *M. badius* of southern South America, having been as yet carefully studied in the field. Major Bendire here presents us with an excellent summary of our present knowledge of the subject, consisting of his articles on the North American species, prepared for Part II of his 'Life Histories of North American Birds' (issued as 'advance sheets'), and Mr. W. H. Hudson's articles on the Cowbirds of the Argentine Republic, from Slater and Hudson's 'Argentine Ornithology.' We thus have in the present paper very detailed accounts of the habits and distribution of five species and one subspecies out of the twelve recognized members of this parasitic group.—J. A. A.

Lucas on the Weapons and Wings of Birds.¹—As Mr. Lucas says, "a more accurate, if not a better, title for this article would perhaps be 'Some Weapons of Birds'"; and we venture to add that perhaps the title 'The Wings of Birds as Weapons' would be even more descriptive, since the paper relates almost wholly to the use of wings as weapons, and to the spurs and tuberosities with which they are armed. Some birds without spurred wings, as the Pigeons and Swans, are good boxers, but some of the Pigeons are not entirely unarmed, being provided with a horny boss or tubercle at the wrist, which adds effectiveness to their blows. The armature of the Spur-winged Geese, the Spur-winged Plovers, Jacanas, and Screamers is described and figured. Spur-winged birds, although apparently so well equipped for warfare, are, however, so far as known, among the most peaceable and inoffensive of birds; at least such seems to be the case with the formidably armed Screamers, and with the Jacanas and Plovers. Curiously in the latter, the size of the spurs on the wings is correlated with the development of the wattles at the base of the bill: species with large wattles having large spurs, and conversely.

Mr. Lucas has also something to say about the claws on birds' wings, and their significance as "reminiscences of well-clawed ancestors," citing in this connection the clawed fingers of the *Archæopteryx*. Mr. Lucas also devotes a page or two to the Hoactzin (*Opisthocomus cristatus*), figuring the young birds from spirit specimens in the U. S. National Museum, to show the use made of the wing-claws in climbing. In commenting on this antiquated type of bird life Mr. Lucas observes: "Not the least of the many interesting features of the Hoactzin is the rapid change which takes place in the fore limb during the growth of the bird by which the hand of the nestling with its well-developed, well-clawed fingers, becomes the clawless wing of the old bird with its abortive outer finger."—J. A. A.

¹ The Weapons and Wings of Birds. By Frederic A. Lucas, Curator of the Department of Comparative Anatomy, U. S. National Museum. Reprinted from the Report of the U. S. National Museum for 1893 (1895), pp. 653-663, pl. 1 and 8 cuts in text.